

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A ~~stacking apparatus~~structure for ~~integrated circuit assemblies~~stacking chip scale packages comprising ~~at least one substrate and one integrated circuit assembly stacking over each other,~~ wherein:

a stack frame, the substrate~~stack frame~~ ~~has~~having an opening a through hole in the center of a upper surface of the ~~substrate~~stack frame through the upper surface and a lower surface of the stack frame, the stack frame having and a plurality of solder spots located on the periphery of the ~~opening through hole,~~ the solder spots being electrically connected to lower surface of the ~~substrate~~stack frame; and

a first chip scale package, the integrated circuit assembly~~first chip scale package being sunk in the aforementioned opening through hole, with its~~the first chip scale package having legs soldering soldered on the solder spots of the ~~substrate~~stack frame, the first chip scale package and the stack frame being a first unit, at least a second unit being stackable and soldered over the first unit, with a bottom of the first unit soldered to a surface of a printed circuit board~~combining the substrate to make a unit structure; two or more such units can be stacked and soldered over each other, with their bottom soldering to a surface of a printed circuit board.~~

2-3. (Cancelled)

4. (Currently Amended) The ~~stacking apparatus~~structure of ~~claim 2~~ claim 1, wherein the periphery of the ~~opening-through hole~~ has solder spots located on the upper surface and the lower surface of the ~~substrate~~stack frame; ~~the solder spots on the upper surface and the lower surface are being connected electrically.~~

5. (Currently Amended) The ~~structure~~stacking apparatus of ~~claim 3~~ claim 1, wherein the periphery of the ~~cavity-through hole~~ has solder spots that are electrically connected to the other surface of the ~~substrate~~stack frame.

6. (Currently Amended) The ~~structure~~stacking apparatus of claim 5, wherein the solder spots on the periphery of the ~~cavity-through hole~~ of the ~~substrate~~stack frame are electrically connected to the surface of the printed circuit board.

7. (Currently Amended) The ~~structure~~stacking apparatus of claim 1, wherein the ~~substrate~~stack frame has a lateral side that has air vents communicating with the opening in the center thereof.

8-9. (Cancelled)

10. (Currently Amended) The ~~structure~~~~stacking apparatus~~ of claim 1, wherein a portion of a bottom of the ~~lower~~first unit sinks into ~~the~~a cavity of the surface of the printed circuit board.

11. (New) The structure of claim 1, wherein the first unit and the second unit are soldered through the legs of the first chip scale package of the first unit and legs of a second chip scale package of the second unit, the stack frame of the first unit having a bottom side bonding to a printed circuit board.

12. (New) The structure of claim 1, wherein the legs of the first unit is soldered on the printed circuit board and the second unit has a second chip scale package, the second chip scale package having legs bonded to the solder spots on an upper surface of the stack frame of the first unit.

13. (New) A structure for stacking chip scale packages comprising:
a stack frame, the stack frame having an opening in the center of a upper surface of the stack frame and a plurality of solder spots located on the periphery of the opening, the solder spots being electrically connected to lower surface of the stack frame;
a first chip scale package, the first chip scale package being in the opening, the first chip scale package having legs soldered on the solder spots of the stack frame; and

a second chip scale package, the second chip scale package being contacting the first chip scale package.

14. (New) The structure of claim 13, wherein the opening in the center of the stack frame is a through hole running through an upper surface and a lower surface of the stack frame.

15. (New) The structure of claim 13, wherein the opening in the center of the stack frame is a cavity sunk from a surface of the stack frame.

16. (New) The structure of claim 14, wherein the periphery of the opening has solder spots located on the upper surface and the lower surface of the stack frame; the solder spots on the upper surface and the lower surface are connected electrically.

17. (New) The structure of claim 15, wherein the periphery of the cavity has solder spots that are electrically connected to the other surface of the stack frame.

18. (New) The structure of claim 17, wherein the solder spots on the periphery of the cavity of the stack frame are electrically connected to a surface of a printed circuit board.

19. (New) The structure of claim 13, wherein the stack frame has a lateral side that has air vents communicating with the opening in the center thereof.

20. (New) The structure of claim 13, wherein a portion of a bottom of the first unit sinks into a cavity of a surface of a printed circuit board.

21. (New) The structure of claim 13, wherein the first chip scale package and the stack frame are a first unit, at least a second unit being stackable and soldered over the first unit, with a bottom of the first unit soldered to a surface of a printed circuit board.

22. (New) The structure of claim 21, wherein the first unit and the second unit are soldered through the legs of the first chip scale package of the first unit and legs of a third chip scale package of the second unit, the stack frame of the first unit having a bottom side bonding to a printed circuit board.

23. (New) The structure of claim 21, wherein the legs of the first unit is soldered on the printed circuit board and the second unit has a third chip scale package, the third chip scale package having legs bonded to the solder spots on an upper surface of the stack frame of the first unit.